

What is claimed is:

1. Porous calcium fluoride having a surface area measured using a BET method of 20 m²/g to 200 m²/g.

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2. A method for producing porous calcium fluoride comprising causing soda lime to contact hydrogen fluoride.

3. A carried catalyst obtained by causing a metal or metal compound to be carried on a carrier formed of the porous calcium fluoride according to claim 1.

4. A hydrogenation catalyst obtained by causing a noble metal or noble metal compound to be carried on a carrier formed of the porous calcium fluoride according to claim 1.

5. A method for producing trihydrofluorocarbon comprising causing a fluoroalkene of the formula (1):

20 Rf₁-CF=CX-Rf₂ (1)

wherein X represents a halogen atom, Rf₁ and Rf₂ individually represent a fluorine atom or fluoroalkyl group, and Rf₁ may be bonded to Rf₂ to form a ring, to contact hydrogen in the presence of the catalyst according to claim 4 to produce trihydrofluorocarbon of the formula (2):

$Rf_1-CHF-CH_2-Rf_2$ (2)

wherein Rf_1 and Rf_2 are as defined above.